WELDING TECHNOLOGY (TEWT)

TEWT 1000 — Introduction to Welding and Cutting
Typically Offered: Fall, Spring, Summer
Credits: 2
Lecture hours: 1
Lab hours: 1
This course will serve students as an introduction to the welding industry. General welding shop safety, thermal cutting processes, basic welding terminology, and arc welding basics are discussed.

TEWT 1010 — Measurement Systems
Typically Offered: Fall, Spring, Summer
Credits: 1
Lecture hours: .5
Lab hours: .5
In this course, students gain an understanding of the concepts and implementation of measurement systems used by welding professionals.

TEWT 1020 — Welding Symbols/Print Reading
Typically Offered: Fall, Spring, Summer
Credits: 2
Lecture hours: 1
Lab hours: 1
This course teaches students to interpret prints and drawings, including welding symbols used in the welding and fabrication industries.
Prerequisites: TEWT 1010 (may be taken concurrently)

TEWT 1070 — Weld Inspection & Testing
Typically Offered: Fall, Spring, Summer
Credits: 3
Lecture hours: 1.5
Lab hours: 1.5
The Welding Inspection and Testing course introduces students to essential welding inspection practices and weld testing methods. This course introduces the fundamental principles of weld inspection and testing, focusing on AWS standards and visual inspection techniques. Emphasis is placed on industry practices and hands-on experience with common destructive testing methods used to evaluate weld quality.
Prerequisites: TEWT 1000 (may be taken concurrently) and TEWT 1010 (may be taken concurrently) and TEWT 1020 (may be taken concurrently)

TEWT 1111 — Shielded Metal Arc Welding (SMAW) I
Typically Offered: Fall, Spring, Summer
Credits: 2
Lecture hours: 1
Lab hours: 1
This course teaches the set-up, operation, and practical uses of Shielded Metal Arc Welding (SMAW). Process advantages and limitations are discussed.
Prerequisites: TEWT 1000 (may be taken concurrently)

TEWT 1112 — Shielded Metal Arc Welding (SMAW) II
Typically Offered: Fall, Spring, Summer
Credits: 2
Lecture hours: 1
Lab hours: 1
This course expands students' competency in hands-on uses and practical application of Shielded Metal Arc Welding (SMAW). The course covers appropriate electrode diameters, classifications, and appropriate current levels necessary to achieve proficiency in SMAW.
Prerequisites: TEWT 1111

TEWT 1211 — Gas Tungsten Arc Welding (GTAW) I
Typically Offered: Fall, Spring, Summer
Credits: 2
Lecture hours: 1
Lab hours: 1
This course teaches the set-up, operation, and practical application of Gas Tungsten Arc Welding (GTAW) using ferrous steel. Process advantages and limitations will be discussed.
Prerequisites: TEWT 1000 (may be taken concurrently)

TEWT 1212 — Gas Tungsten Arc Welding (GTAW) II
Typically Offered: Fall, Spring, Summer
Credits: 2
Lecture hours: 1
Lab hours: 1
This course expands student competency in hands-on uses and practical application of Gas Tungsten Arc Welding (GTAW) using nonferrous metals. Electrode classifications, preparation, and tip geometries are discussed.
Prerequisites: TEWT 1211

TEWT 1311 — Gas Metal Arc Welding (GMAW) I
Typically Offered: Fall, Spring, Summer
Credits: 2
Lecture hours: 1
Lab hours: 1
This course teaches the setup, operation, and practical application of Gas Metal Arc Welding (GMAW). Process advantages and limitations are discussed.
Prerequisites: TEWT 1000 (may be taken concurrently)

TEWT 1312 — Gas Metal Arc Welding (GMAW) II
Typically Offered: Fall, Spring, Summer
Credits: 2
Lecture hours: 1
Lab hours: 1
This course expands students' competency in the practical application of Gas Metal Arc Welding (GMAW). Shielding gas composition, selection, and appropriate flow rates are discussed.
Prerequisites: TEWT 1311

TEWT 1411 — Flux Cored Arc Welding (FCAW) I
Typically Offered: Fall, Spring, Summer
Credits: 2
Lecture hours: 1
Lab hours: 1
This course covers the setup, operation, and practical application of Flux Cored Arc Welding (FCAW). Process advantages and limitations are discussed.
Prerequisites: TEWT 1000 (may be taken concurrently)

TEWT 1412 — Flux Cored Arc Welding (FCAW) II
Typically Offered: Fall, Spring, Summer
Credits: 2
Lecture hours: 1
Lab hours: 1
This course expands student competency in the hands-on use and practical application of Flux-Cored Arc Welding (FCAW). Shielding gas composition, selection, and appropriate flow rates are discussed.
Prerequisites: TEWT 1411

TEWT 1610 — Metal Fabrication I
Typically Offered: Fall, Spring, Summer
Credits: 3
Lecture hours: 1.5
Lab hours: 1.5
The Metal Fabrication I course teaches students to take a project from concept to completed part. Students will design, cut, form, and weld projects utilizing various equipment and welding processes.
Corequisites: TEWT 1000, TEWT 1010

TEWT 1615 — Metal Fabrication II
Typically Offered: Fall, Spring, Summer
Credits: 3
Lecture hours: 1.5
Lab hours: 1.5
The Metal Fabrication II course builds on the principles learned in Metal Fabrication II and allows students to further develop skills to take a project from concept to completed part, preparing them for a Fabrication environment.
Prerequisites: TEWT 1610

TEWT 2100 — Specialized Shielded Metal Arc Welding (SMAW) I
Typically Offered: Fall, Spring, Summer
Credits: 3
Lecture hours: 1.5
Lab hours: 1.5
The Specialized Shielded Metal Arc Welding (SMAW) I course teaches intermediate skills in the SMAW process, with an emphasis on joints applying to structural and pipe applications in multiple positions. Students are introduced to advanced welding skills on heavy plate and mild steel pipe.
Prerequisites: TEWT 1112

TEWT 2110 — Specialized Shielded Metal Arc Welding (SMAW) II
Typically Offered: Fall, Spring, Summer
Credits: 3
Lecture hours: 1.5
Lab hours: 1.5
The Specialized Shielded Metal Arc Welding (SMAW) II course teaches advanced skills in the SMAW process, with an emphasis on joints applying to field applications. Students refine and demonstrate advanced welding skills on heavy plate or mild steel pipe.
Prerequisites: TEWT 2100

TEWT 2200 — Specialized Gas Tungsten Arc Welding (GTAW) I
Typically Offered: Fall, Spring, Summer
Credits: 3
Lecture hours: 1.5
Lab hours: 1.5
Specialized Gas Tungsten Arc Welding I is an Intermediate level course for welding students that provides hands-on experience with Gas Tungsten Arc Welding (GTAW) techniques, focusing on adjusting machine parameters and working with a variety of materials.
Prerequisites: TEWT 1212

TEWT 2210 — Specialized Gas Tungsten Arc Welding (GTAW) II
Typically Offered: Fall, Spring, Summer
Credits: 3
Lecture hours: 1.5
Lab hours: 1.5
Specialized Gas Tungsten Arc Welding (GTAW) II course expands student competency in hands-on uses and practical application of GTAW using various metals with an emphasis on precision work.
Prerequisites: TEWT 2200

TEWT 2300 — Specialized Gas Metal Arc Welding (GMAW) I
Typically Offered: Fall, Spring, Summer
Credits: 3
Lecture hours: 1.5
Lab hours: 1.5
Specialized Gas Metal Arc Welding (GMAW) I is an intermediate course that teaches students the special challenges that various materials, joint types, and positions pose to welders.
Prerequisites: TEWT 1312

TEWT 2310 — Specialized Gas Metal Arc Welding (GMAW) II
Typically Offered: Fall, Spring, Summer
Credits: 3
Lecture hours: 1.5
Lab hours: 1.5
Specialized Gas Metal Arc Welding (GMAW) II is an advanced course that emphasizes processes and applications pertaining to a manufacturing environment. Topics include working with diverse materials, adapting to various joint configurations, and welding in multiple positions to address industry-specific challenges.
Prerequisites: TEWT 2300

TEWT 2400 — Specialized Flux Cored Arc Welding (FCAW) I
Typically Offered: Fall, Spring, Summer
Credits: 3
Lecture hours: 1.5
Lab hours: 1.5
In this course, students will receive hands-on instruction on Flux-Cored Arc Welding (FCAW) while learning welding process-specific joints, positions, and welding shop safety practices.
Prerequisites: TEWT 1412 (may be taken concurrently)

TEWT 2410 — Specialized Flux Cored Welding (FCAW) II
Typically Offered: Fall, Spring, Summer
Credits: 3
Lecture hours: 1.5
Lab hours: 1.5
Prerequisites: TEWT 2400